Friday Math Bash Sessions
January 24, 2014

(Math Bash sessions are 45-minute mini-workshops)

Using the iPad to Help Students Think about the World of Molecules, Atoms, and Ions

Grades 7, 8, 9, 10, 11, 12 (chemistry, physical science, technology integration)

Since students live in the macroscopic world, it is challenging for them to visualize the microscopic world of molecules, atoms, and ions. Many high school students operate on a concrete thinking level and it is difficult to move them to the abstract level to fully understand chemical concepts and processes. Join us as we use the TI Nspire CAS App for iPad and Science Nspired simulations to reverse these misconceptions and build a deeper understanding of the submicroscopic world. The goal of this session is to demonstrate the use of the iPad and all its potential for effective science instruction.

Greg Dodd, now in his 42nd year of teaching Chemistry and AP Chemistry, is certified in Chemistry, Physics, Mathematics, and General Science. He is a College Board Consultant, a T-Cubed National Instructor, and a consultant for Vernier Software and Technology. He is a frequent presenter at AP Chemistry Workshops, National Science Teacher Regional, National, and STEM Conferences, ChemEd, the Biennial Conference on Chemical Education, as well as at T-Cubed International Conference.

Wondering, Seeing, and Sharing before Solving

Grades 7, 8, 9, 10, 11, 12, administrators (algebra, adv. algebra, trigonometry, precalculus, pre-algebra, geometry)

Help students lose their unease or fear of problem solving by getting them excited about mathematical observation, questioning, and wondering. Experience simple, rich, open ended activities or openers appropriate from middle school to calculus that can be used to preview, motivate, and review/make deeper connections. The activities draw from Math Talks, Singapore Math, Qfocus, and are inspired by educators such as Jo Boaler, Annie Fetter, P.J. Karafiol and others.

Steven Starr is a retired CPS mathematics teacher who taught at Lake View High School for 20 years, developing a successful AP Calculus program where minority and low-income students were motivated to take advanced mathematics. He has shared his experience and ideas at numerous workshops before and after retirement.

Become a human calculator!

Grades 7, 8, 9, 10 (algebra, mental math)

This session introduces two mental math games: *24 Game* and *Math Dice*. Participants will have the opportunity to play the games and find ways to incorporate them into their math lessons. Common Core Mathematical Practices will be the focus during this presentation.

JaMaris Ealy is a lead math teacher at Ames Middle School. He has taught all ages (K-college level) in various areas of mathematics as well as various study skills programs. Games and other manipulatives are tools that are frequently used during his instruction.
Christina Aulisio is a math and science teacher at Ames Middle School. Ms. Aulisio has taught 6th, 7th and 8th grade and loves to find fun games she can share with her students to help build their math skills.

Algebra 1 for Unmotivated Low Achieving Students: Intensified Algebra – A new Curriculum

Grade 9, administrators, department chairs (algebra, technology integration, assessment)

Come hear a discussion/demonstration with veteran teachers on the pros and cons of Agile Mind's *Intensified Algebra 1* curriculum along with a sample lesson in the IA style of teaching. This curriculum takes a functions-based approach to Algebra 1 and allows students to both develop their mathematical ability and their understanding of themselves as learners. Students focus on discovering and creating linear, quadratic, and exponential functions and their multiple representations; all while honing in on their communication skills both verbally and in writing. Based in the Common Core Standards, IA helps to prepare students for the upcoming PARCC assessment by connecting the Standards for Mathematical Practice to the Standards for Mathematical Content while using the exams formatting. The curriculum's head writer is Diane Briars, president-elect of the National Council of Teachers of Mathematics.

Mrs. Ellen Casey is a mathematics teacher at Curie Metropolitan High School. She has taught for Chicago Public Schools for 5 years, during which time she has worked at Curie and Bronzeville Scholastic Institute. She has co-sponsored Mu Alpha Theta, the school's National Mathematics Honor Society, and is currently a MTSS committee member. Mrs. Casey attended DePaul University where she earned her Bachelor's degree in Secondary Education and a Master's degree in Mathematics Education.
Mr. Jeffrey Mikula is a mathematics teacher for the Chicago Public Schools system and is currently at Curie Metropolitan High School. He has been at Curie for 5 years and continues to be an International Baccalaureate teacher for Algebra 1. He is a soccer coach for the varsity girls' and JV boys' teams. Mr.

Mikula has a Bachelor's degree from UIC in Secondary Education and a Master's degree from DePaul in Mathematics Education.

You are 2^n

Grades 8, 9 (algebra)

Participants will find 2^n activities guaranteed to engage their students. There will be magic tricks, tournament games, model building and a bit of math history. A take-away from this session will include a comic book called "The Power of Tu", featuring a cuddly monster that, once activated, doubles his height every hour. Along the way we will make some models and graphs to see what makes 2^n different from 2n and n^2.

Diane Schiller is a professor of education at Loyola University Chicago. She has taught middle school math and social studies. As part of GEAR UP, Diane participates in the development of Algebra Boot Camp (ABC) and Freshmen Connection. Diane has a call-in cable show, called "Math Matters", which she hosts with her college students on Monday afternoons from 4:30-5:30 PM on Channel 21. She is interested in integrating math and theater. Scripts are available for free at: thepoweroftwo.org.

Conversations and Equations: Math Talks and Discourse in the Math Classroom

Grades 7, 8+ (pre-algebra, algebra)

Using the strategies of *Math Talks* and *Instructional Questioning*, this session will dive into ways to foster meaningful conversation and discourse in the math classroom. These strategies help promote greater equity and access of learning while building mathematically proficient students.

Gavin Creaden is a Math Specialist for the Chicago Public Schools, Department of Mathematics. He holds a Master of Education degree from DePaul University. Gavin has taught mathematics throughout CPS in grades 3rd through 8th, in addition to working as a Math and Science Instructional Coach.
Toni Galassini recently became a Math Specialist for Chicago Public Schools. She taught 2nd grade at Beaubien Elementary School for over 19 years. This past year, she worked in collaboration with the CPS Department of Mathematics and Science providing professional development to teachers throughout the district on the CCSS for Mathematics Content and the Standards of Mathematical Practices. Recently, she collaborated with the Office of Youth Development and Behavioral Supports in videotaping classroom practices demonstrating the Social Emotional Learning embedded within the teaching and learning (through the lens) of mathematics.

An Nspired Introduction to the TI-Nspire iPad APP

Grades 7, 8, 9, 10, 11, 12, administrators (algebra, adv. algebra, trigonometry, precalculus, geometry)

This session is intended to be an introduction to the TI-Nspire iPad APP. Bring your own iPad with the APP pre-loaded and get acquainted with what this new tool can do. Topics from Algebra through Calculus will be discussed.

Ray Klein is a retired high school math teacher (Glenbard West) and an adjunct professor at Northern Illinois University. He has been a T3 National Instructor since 1995 and has delivered many TI-Nspire training sessions at state and national conferences and schools around both the state of Illinois and the entire country.

Makerspaces: Creating a Space for Young Innovators

Grades – All

In this session, the facilitators will present the concept of "makerspaces" - spaces that encourage creativity, collaboration, and "making". They will show examples of makerspaces in schools and will brainstorm with the participants how to create a makerspace within a school community.

Roxana Hadad is Director of Math, Science and Technology at the Chicago Teachers' Center at Northeastern Illinois University.

Saturday Workshop Sessions
January 25, 2014

(Saturday sessions are 75-minute workshops)

****SPECIAL SATURDAY SESSION FOR ADMINISTRATORS, LEADERS, and COUNSELORS****
College and Career Ready-making
Grades 7-12, administrators, counselors, teacher leaders (STEM, college and career readiness, career connections, collaborations)
The iMATHination Conference team, in conjuction with AAR Corp. presents a joint effort to present the discussion-to-action session that will focus on steps that need to be taken, and those currently being taken, to support students in developing STEM college and career readiness skills**--** necessary to function and compete in this global environment. Greg Dellinger from AAR Corp. will lead an interactive discussion with panelists from the classroom, higher education and the corporate world that will include audience Q & A. *Panelists include: Diane Briars, Ph.D. (NCTM), Tammera Holmes (AeroStar Consulting Corp.), Karen Lindebrekke (iBIO Institute Educate Center), Ellen Casey (CPS), Jeffrey Mikula (CPS), Stephanie Levi, Ph.D. and Roxana Hadad (CTC/NEIU).*

Flipped Math Classroom
Grades 7, 8 (pre-algebra, algebra, blended learning, technology integration)
The session will offer a guide for switching a classroom to a flipped environment. Direct instruction is flipped to the time outside of class, allowing class time to be spent doing activities on mathematical concepts. Reflections from the start up of the process will be shared for the uninitiated.

Drew Mckissick is a 7th grade mathematics teacher at Louis Pasteur Elementary School located on the southwest side of Chicago. Throughout his 20-year tenure at Pasteur, Mr. McKissick has taught 8th grade mathematics, social science and language arts. Moving into his twentieth year at Pasteur, Mr. McKissick decided to revolutionize his classroom and implement the flipped instructional model. He has always enjoyed bringing relevancy to his learners, and he believes that this is a huge step forward.

iPads in Education

Grades 7-12 (technology integration, tablets, software, cloud services)

We will be highlighting the potential and power of using the iPad as a teaching tool. We'll begin by touching upon why technology such as iPads can have a positive impact on students and learning. Next, we'll cover advanced features including iCloud services, Foreign Language input, and AirPlay. We'll also cover how iPads can be maintained in mobile classroom settings. Finally, selected apps will be presented to demonstrate how an iPad can be used in a classroom.

Anderson Lam has been certified as an Apple Technical Coordinator and has been working in Information Technology for 14 years. He currently serves as technical lead for supporting Macintosh computers, iOS mobile devices, and OS X servers at Northeastern Illinois University.

Using "Clickers" to implement the Common Core Math Standards

Grades 7, 8, 9, 10, 11, 12 (algebra , adv. algebra, precalculus)

Learn how Fisk Elementary used clickers to improve student achievement and implement the Common Core Math Standards. In this workshop participants will use clickers while learning best practices, routines, and skills implemented at Fisk Elementary School.

Reginald Miller has held positions as math teacher, math coach, principal, lead principal and professional development provider. His passion is helping schools increase their students' math scores as measured by the NWEA and ACT by using technology and effective video based tutorials that strategically improve students' performance.

Engaging Students in Mathematics through Problem-Based Learning

Grades 7-12, administrators (algebra , precalculus, physics, earth science, geometry)

Participants will engage in the first steps of an interdisciplinary, authentic problem-based learning experience focused on climate change and the effects on human health and agriculture. They will explore and discuss some of the embedded mathematics learning activities, such as simulating rates of vector-borne disease transmission and designing wind turbines. They will also experience how visible thinking routines can be used for formative assessment tools and to develop student's 21 century skills—especially the 4 Cs—critical thinking, communication, collaboration, and creativity.

Karen Lindebrekke is Director of Programs of the iBIO Institute EDUCATE Center. Previously she was a PBL specialist at IMSA, mathematics curriculum coordinator, environmental educator, and editor and author. She has over 15 years of science and mathematics teaching experience. She holds an M.S. in Curriculum and Instruction and a B.A. in Zoology.

Getting Out of the Way! (*or* How to get your students to "Do the Math!")

Grade 7, 8, 9 (algebra, advanced algebra)

In this session, teachers will explore some rich problems and a few methods of teaching (including doing it silently) that increase students' problem-solving confidence and engage them in doing some "real world" mathematics. Aimed at 6-8th grade teachers (but applicable to all grade levels), the content will connect to topics in the CCSSM 6-8th grade content standards. We will also engage in and make explicit connections to the Standards for Mathematical Practice. The methods and resources presented are intended to help students develop the deep understanding and the thinking skills that are being expected by the CCSSM and the advancing world around us.

Matt McLeod *spent* 7 years in 6-8th grade classrooms in CPS and his 8 years as a private tutor stirred a passion in him to make thinkers (mathematical and otherwise) of the students with whom he crossed paths. As an instructional coach for 4 years, Matt was able to help others refine their practice and see the potential in ALL students. Now Matt trains teachers and helps write some of the resources that help develop the mathematical thinkers in us all. He also works with districts as they strive to understand what it means to fully reach the intent of the CCSSM.

Use Engaging Problem Solving Tasks and Math Projects

Grades 7, 8, 9 (pre-algebra, algebra, geometry)

This math workshop will include the Common Core State Standards of the eight mathematical practices and problems with math content that aligns with the CCSS of Mathematics for grades 7-9. The following math content will be included within the math problem solving tasks and math projects: number sense, operations with rationals, measurement, algebraic thinking and geometric thinking. Use effective questions to encourage student thinking and explanations. All of the problems shared have been used by students in math classrooms. CCSS math resources and websites will also be provided

Edna Bazik, Ph.D., served as a mathematics teacher at grades 6-12 and as mathematics coordinator in grades K-8, and supervisor of student teachers for grades 6-12. Also, Edna co-authored 12 mathematics education books and served as a mathematics consultant for 25 years. Edna has worked with the ISBE and Pearson on the Mathematics ISAT for grades 3-8 during the past 14 years. Recently, Edna has worked for Achieve in serving on the State Math Educator Team to review PARCC Common Core assessments for grades 3-8. Edna also served on the CCSS Math Assessment for Special Education in working for Dynamic Learning Maps at the University of Kansas.

NASA's Dangerous Mathematics: Black Holes and Dividing by Zero

Grades 7, 8, 9, 10, 11, 12 (algebra, advanced algebra, physics)

Find out what Steven Wright meant when he said, "Black holes are where God divided by zero." Through a series of hands-on activities, investigate basic mathematics operations to build a conceptual understanding of division by zero. Then, using common household materials, build a model of a star that will go supernova and learn what it would take for that supernova to result in a black hole. Finally, apply algebraic concepts along with that new knowledge to try to turn the model star into a real black hole. Free NASA materials and ready to use classroom activities!

Janet Moore is a NASA Educator Ambassador, representing astrophysics space satellite missions. She lives in Bloomington, IL, teaches Developmental Mathematics at Illinois State University, and is passionate about the intersection of mathematics and science. Previously, Janet worked as Flight Director of a Challenger Learning Center and taught high school mathematics.

Paradigm Shifts in Teaching Higher Level High School Mathematics

Grades 10, 11, 12, administrators (adv. algebra, precalculus, trigonometry, geometry, assessment)

Are you tired of doing the same old thing and getting the same old results? Do you have students who rely solely on you to confirm and validate their thinking? Are you interested in getting ideas that will transform your classroom and mobilize students to become more collaborative and aid them in orchestrating and sustaining high-level mathematical discourse? If yes, then this session is for you! In this session, many strategies will be introduced that have aided this presenter in doing just that! Holifield will discuss strategies used in the classroom that have transferred the heavy lifting from the teacher to the students. These strategies have enabled students to incorporate the eight Mathematical Practices which make up the Common Core State Standards into their daily work without even realizing that they are doing so. You will leave this session with ideas that you can take into the classroom and begin using tomorrow.

Lamont Holifield has been a phenomenal mathematics educator for over eight years. He has taught in CPS, Chicago International Charter Schools and currently teaches at Urban Prep High School-Bronzeville Campus. He has a passion for making mathematics courses rigorous, relevant and engaging. He loves blending high-level mathematics with literacy strategies that ensure that students will excel. He attended Roosevelt University where he received a B.A. in Mathematics, M.A. in Training and Development and a M.A. in Secondary Education. This is his fourth year as a presenter for IMathination.

Teaching the CCSS with the TI-Nspire iPad APP
Grades 7, 8, 9, 10, 11, 12 (algebra , adv. algebra, trigonometry, precalculus, geometry, calculus, technology integration)
The TI-Nspire iPad APP is the latest tool for use in teaching the CCSS in Mathematics. Come see how the iPad can be used to teach mathematics topics from Algebra through Calculus. This session will focus on both the mathematical topics AND the pedagogy of teaching a "discovery based" experience for learning these topics.

Ray Klein is a retired high school math teacher (Glenbard West) and an adjunct professor at Northern Illinois University. He has been a T3 National Instructor since 1995 and has delivered many TI-Nspire training sessions at conferences and schools around both the state of Illinois and the entire country.

***What's Fair?:* Math and Society**
Grades 7-12, administrators (pre-algebra, algebra, adv. algebra, geometry, discrete math, teacher collaboration)
Young people have a strong sense of fairness, and mathematics can help them develop and refine their own ideals through models of how individual freedom and choice exist in a social context. Participants will do activities during which students explore:

- Fair Division -from a review of weighted averages, to "new" mathematical approaches for division, to methods for fair representation
- Game theory -where our choices affect others and vice-versa
- Models of society that result from quantifying personal values

Steve Starr is a retired CPS mathematics teacher who taught at Lake View High School for 20 years, developing a successful AP Calculus program where minority and low income students were motivated to take advanced mathematics. He has shared his experience and ideas at numerous workshops before and after retirement.

Transforming Geometry into the Common Core with Transformations!
Grades 10, 11, 12 (geometry, technology integration, manipulatives)
One chapter on transformations in Geometry is NOT enough. Geometry can be so much more if taught from a transformational perspective. Grab some hands-on activities and ways to integrate technology that will help you transform your curriculum to the Common Core.

Nancy Powell is a Golden Apple and Presidential Award winning teacher and author. She is National Board Certified. She retired after 37 years of teaching high school mathematics. She is currently a consultant, adjunct faculty at Illinois Wesleyan University, and leading workshops to give back to her profession.

Visualization and Connections in Chemistry
Grades 7-12 (chemistry, physical science, mathematics, technology integration)
Next Generation Science Standards encourage scientific inquiry, the integration of mathematics and science, and the use of technology to facilitate both scientific inquiry and math/science integration. This workshop will make use of the TI-Nspire CAS CX, Vernier Probes, and the Nspire CAS Navigator System to demonstrate the use of technology and mathematics to facilitate scientific inquiry in the science classroom. In addition, simulations will be used to further deeper student understanding of science concepts.

Greg Dodd, now in his 42nd year of teaching Chemistry and AP Chemistry, is certified in Chemistry, Physics, Mathematics, and General Science. He is a College Board Consultant, a T-Cubed National Instructor, and a consultant for Vernier Software and Technology. He is a frequent presenter at AP Chemistry Workshops, National Science Teacher Regional, National, and STEM Conferences, ChemEd, the Biennial Conference on Chemical Education, as well as at T-Cubed International Conference.

"A + B = C" Overcoming the Hidden Obstacles to Student Understanding of the Concept of Variable
Grades 7-12 (algebra, adv. algebra, trigonometry, precalculus, pre-algebra, Geometry)
Equivalence is at the heart of mathematics, and one of the central concerns of the Common Core. Yet many of the ways we teach mathematics emphasize mathematics almost exclusively as Procedure, leaving many students with difficulties in conceptual understanding. A major issue is how we introduce the concept of variable, and use variables and variable expressions throughout the curriculum. This session offers some simple changes in emphasis and some quick activities that can be done in early Algebra (and later) to help students understand mathematics as equivalence and not just procedure.

Steve Starr is a retired CPS mathematics teacher who taught at Lake View High School for 20 years, developing a successful AP Calculus program where minority and low income students were motivated to take advanced mathematics. He has shared his experience and ideas at numerous workshops before and after retirement.

Rules of Engagement

Grades 8, 9, 10 (algebra, technology integration)

Need help getting that student's head off the desk? Come learn about innovative strategies to help your students be more engaged in class and more successful in algebra. See how your students can benefit from various interactive web tools and learn how hands-on activities can help promote their understanding of algebraic concepts.

Jason Carter is a GEAR UP College and Career Coach with Northeastern Illinois University. He earned a bachelor's degree in psychology at Florida Memorial University and he is currently completing a master's degree in school counseling at Saint Xavier University. He facilitates the GEAR UP college and career readiness program at Dunbar Vocational Career Academy and John Fiske Elementary. He is also a co-teacher of a communications course for 9th grade students.
Tiffany Jackson is a community educational facilitator with Northeastern Illinois University's Educational Talent Search Program and GEAR UP. For seven years, Ms. Jackson has provided educational services to thousands of students across several Chicago public high schools. She has facilitated interactive math tutoring programs both during and after school. She has also facilitated an ACT preparation program for math at Kelvyn Park High School. She earned her bachelor's degree in finance at Northeastern Illinois University.

Transitioning to the Common Core Standards

Grades 9-12 (algebra , adv. algebra, trigonometry, precalculus, geometry)

This presentation will help participants understand that we are adopting not "adapting to" the Common Core Standards and Practices. This process will mean a change in curriculum, lesson preparation and presentation in the classroom, with emphasis on student investigation, discovery, and conclusion using a variety of mathematical methods. The presentation will address the "mile wide and an inch deep" criticism of the current high school math curriculum. The goal is to emphasize depth, understanding, and application to real life situations.
Participants will experience hands-on problems, discussion questions, and interact with fellow educators on the topic of Common Core as it relates to their own circumstances.

Robert Cherry is a retired high school math teacher and department chair from Wheaton Warrenville South HS. He was interim math division chair, Oak Park & River Forest HS. He now works as a math consultant at the Professional Development Alliance in Joliet and teaches at Wheaton College, Triton College, & College of DuPage. Robert is also an ISBE certified in Common Core and presenter at NCTM conferences.

Geometry Alive

Grades 9, 10, administrators (geometry, teacher collaboration)

Experience how 4MAT can transform geometry teaching by reflecting the principles of how students learn. Explore four ways students learn and how to design geometry instruction to address these differences. The common core requires students to put geometry to use in real world situations and this session demonstrates how teachers can involve students in putting geometric principles to work—not just memorizing geometry terms. To model this process in the classroom, we will walk though several complete geometry units:

a) The Properties of Triangles: 3 Points of Concurrence,
b) Inference, as taught through the content of parallel and perpendicular lines

Michael McCarthy is the Director of About Learning, a company specializing in how and why people learn. Consults with educators throughout the world to broaden their view of learning so more students will succeed. The New Jersey DOE, CPS, Yonkers are using these innovative methods to their great benefit.

Stem Blooms in the Classroom

Grades 7-12, administrators (STEM instruction, technology integration, teacher collaboration, math application)

Imagine math coming alive in the classroom in such a way that career aspirations in the areas of Science, Technology Engineering and Mathematics begin to bloom in the minds of your students. What if your students didn't just study to pass the tests, but were able to retain content through engaging application of math in practice? Learn how to introduce math concepts in an inviting way, demonstrate math at work in the real world and cultivate the need for advancements in math for students' future success in STEM careers. In this session, Ms. Holmes will give tools and strategies that will compliment teacher's Common Core curriculum, build confidence in teaching style with the implementation of innovative technology and help provide tangible connections to STEM careers inside the classroom.

Tammera Holmes, a graduate of Proviso East High School in Maywood, Illinois, has degrees in Aviation Flight/Management and Spanish from Southern Illinois University. She began her professional aviation career at Landrum & Brown, one of the world's leading Aviation Consulting Firms. In 2008, she launched AeroStar Consulting Corporation in an effort to pave the way for tomorrow's leading professionals within the aviation industry. One of the main focuses of AeroStar Consulting Corporation, is to introduce K-12 students to careers in aviation and STEM as well as provide a support system to post secondary students seeking aviation-related licenses, certifications and degrees through the

Aviation Academic Initiative. Her passion to see companies develop meaningful relationships with academic entities and organizations within their communities, has helped her to set an unprecedented pace for growth amongst highly qualified young people and minorities within STEM careers in corporate America.

Quadratics Functions in the Era of Common Core
Grades 8, 9, 10 (algebra, advanced algebra, assessment)
As we transition to Common Core, how will we make curricular changes that address the new standards? This session will focus on the impact that CCSSM has on quadratics and the depth that is now required by the new standards. Participants will examine problems that help students develop concepts to connect the important ideas of quadratic functions.

Regeta Slaughter currently works at the University of Illinois at Chicago in the Department of Math Education as a clinical lecturer. In addition to teaching courses, she is involved in the Algebra Initiative and Intensified Algebra projects. Prior to working at UIC, Regeta spent 37 years in Chicago public schools as a high school math teacher, department chair and director of mathematics in the CPS Office of Math and Science.

The Unseen World: Using Microscopy to put the Next Generation Science Standards into Practice
Grades 7, 8, 9 (biology, microscopy, technology integration, NGSS)
Worlds exist beyond what our naked eye can see, and these living worlds have the power to capture students' imagination, curiosity, and inquisitive nature. While high-end microscopes are wonderful tools, they can be inaccessible to many. Fortunately, low-cost substitutes are available that can facilitate student engagement in microscopy for learning, which intersects biology, chemistry, engineering, mathematics and physics. Not only are curricula centered around microscopy fun for both teachers and students, they are also fantastic mechanisms for implementing the NGSS. Participants will be introduced to an experiential, inquiry-based microscopy curriculum that has been successfully used in classrooms and out-of-school time settings, which integrates science, art, and writing, as well as skill building such as collaborative learning, critical thinking, and scientific proficiency. Using the curriculum as a template, participants will learn how microscopy curricula support implementation of the NGSS, and will create their own NGSS-aligned microscopy workshop that they can use immediately.

Stephanie Levi received her Ph.D. in Molecular Genetics and Cell Biology at the University of Chicago, where she studied the molecular basis of the cell's secretory pathway, and created a variety of science outreach, communication and

mentoring opportunities during her pre-doctoral years. After completing her Ph.D., she centered her career at the nexus of science, outreach, education and communication, focusing on improving student recruitment, retention and success in the sciences, technology, engineering and math (STEM), particularly underrepresented students, first generation and low income students, and individuals with disabilities. Her impact has led to programmatic success and student achievement at a variety of venues, including the Midwest's only four-year Hispanic-Serving Institution, a national non-profit, local youth-serving organizations, museums and libraries, among others. Public education and outreach with science, technology, engineering and math are critical components of her professional interests, particularly as they focus on adults. Her most recent work focuses on training scientists to conduct high quality public outreach.

Not Just "Louder and Slower": Re-Engaging to Repair Students' Misconceptions
Grades 7-11 (algebra , adv. algebra, trigonometry, geometry, formative assessment)
As anyone who's ever tried to teach their dog to whistle knows, learning and teaching are unfortunately not the same thing. When we assess our students after instruction, we may uncover some important gaps or misconceptions. Is there something we can do to help move students' understanding forward besides re-teaching: the old "louder and slower" approach? We'll practice a structure to respond through "re-engagement" — to surface and repair misconceptions in a way that involves and challenges all students. You'll also look at some ways to analyze students' work and leave with guidance on where to find rich, high-quality mathematical tasks and supporting materials on a variety of important topics – for free. Come equip yourself with some valuable techniques to help your students meet the demands of the Common Core State Standards for Mathematics.

Sendhil Revuluri as a high school teacher in the South Bronx worked on professional development, assessment, and curriculum projects, and was recognized as a Math for America Master Teacher. He now helps lead a comprehensive mathematics improvement effort in districts with substantial low-income student populations, working to influence practice, infuse effective tools, and change structures, policies, and cultures to support joint problem-solving.